

December 16, 2003

MEMORANDUM FOR Interested Parties

From: Georgia L. Harris
Weights and Measures Division

Subjects: 2004 Regional Measurement Assurance Programs Training
Thermometry Training

2004 RMAP Training Schedule

NIST/OWM will provide metrology training at all of the RMAP Regional metrology training sessions in 2004. Training will be coordinated by NIST/WMD and will be provided at no charge to participants.

Region	Dates	Location
SEMAP	March 22 to 25, 2004	SEMAP Regional Metrology Training - VA Contact: Mike Kramer, mkramer@vdacs.state.va.us
WRAP	May 3 to 6, 2004	WRAP Regional Metrology Training – CA Contact: Roger Macey, RMacey@cdfa.ca.gov
NEMAP	September 20 to 23, 2004	NEMAP Regional Metrology Training - WV Contact: Dan Mace, dmace@labor.state.wv.us
SWAP	September 27 to 30, 2004	SWAP Regional Metrology Training - KS Contact: Karl Herken, kherken@kda.state.ks.us
MidMAP	October 18 to 22, 2004	MidMAP Regional Metrology Training – IN & Eli Lilly Contact: Jerry Clingaman, jclingam@isdh.state.in.us

NOTE: There will be a separate registration fee for each local meeting. Hotel and travel details are provided by the local host, usually at least 6 to 8 weeks prior to the meeting.

The topics for 2004 training were selected based on training needs assessments. See the following pages for the agenda and descriptions of the training.

RMAP Agenda

Monday	Tuesday	Wednesday	Thursday	Friday
Session 1	Session 4	Session 6	Session 8	Reserved for RMAP Business & Travel
Session 2 Session 3	Session 5	Session 7		

Regional Management Topics

- 1. Round Table – Laboratory & Program Updates**
 - a. Used for system needs analysis and discussion of problems of common interest
- 2. Round Robin Reports, Analysis & Planning**
 - a. As required for demonstrating competence for laboratory recognition.
- 3. RMAP Business Meeting & Guest Speakers**

*Laboratory Management Topics***4. Measurement Systems Analysis & Root Cause Analysis**

ISO 9001 covers the concept of measurement systems analysis and familiarity with this industrial approach should be helpful to the laboratories and your customers/clients. Root cause analysis training is being provided as a result of identified weaknesses in the preventive and corrective actions of the laboratories. Case studies will be used.

5. Laboratory Ergonomics & Safety

Numerous laboratories are upgrading procedures and equipment handling to minimize the physical risk and degradation to staff. Ideas regarding handling intermediate and large weights and provers will be shared. Additional information will be shared regarding biological and chemical risks related to items used in the laboratory and/or items submitted to the laboratory. Laboratory staff will be asked to share their insights in this interactive learning session.

*Technical Metrology Topics***6. HB 105-3 DRAFT Updates – Review**

Updated drafts of 105-3 will be provided prior to 2004 SEMAP meeting (by email, mail, and web posting) and will be reviewed at all RMAP meetings before going final. Previously identified errors will be corrected and 5-gal bottom drain provers will be addressed. Any specific interest in participating on a working group or submitting additional proposed changes should be sent to Georgia Harris (gharris@nist.gov) prior to February 28, 2004.

7. Gravimetric Volume Calibration – Intermediate

Follow-up training will be conducted on gravimetric volume calibrations based on numerous problems we have identified related to ensuring traceability through mass. An updated procedure will be presented, data analysis from WMD studies will be presented, and case studies will be discussed. Results of 5 gal and 15 gal and compact displacement prover gravimetric tests will be discussed.

8. LPG Provers

LPG Provers will be discussed. It has been quite some time since LPG provers were covered during the Intermediate seminars because we found fewer laboratories are actually performing calibrations of them. Handbook 105-4 will be updated and a draft discussed at the 2004 RMAP meetings. A checklist for evaluating LPG provers and SOP 21 for LPG prover calibration will be covered. A hands-on calibration session will be included.

Thermometry Training

A number of laboratories have requested training in thermometry. We would like to bring the following opportunities to your attention. Several of these seminars are coordinated with other metrology conferences that are excellent opportunities for additional metrology training and networking.

1. Measurement Science Conference, January 12-13, 2004

You can register on line at: <http://www.msc-conf.com/>

If you register before December 18, 2003, the cost for the tutorial is: \$695.00 (\$795 if after)

If you register for the tutorials, workshop and entire conference (encouraged) the cost is: \$1095.00 if registering before December 18, 2003 (\$1195 if after).

Abstract:

Selection, Calibration, and Use of Contact Thermometers

Presenters: Greg Strouse and Karen Garritty

Process Measurements Division, NIST, Gaithersburg, MD 20899-8363

In this seminar, we will discuss contact thermometers commonly used in industry for relatively high accuracy applications, including platinum resistance thermometers, thermistors, thermocouples, and liquid-in-glass thermometers. Topics covered will include:

- *A brief description of temperature scales*
- *Characteristics, capabilities, and areas of application for each type of thermometer*
- *Special techniques for the successful use of each type of thermometer*
- *Calibration techniques and measurement validation methods*
- *Alternatives to traditional calendar recall dates for recalibration*
- *Process control and attaining traceability to NIST*
- *The step-by-step development of uncertainty budgets for calibrations by a comparison method in both stirred-liquid baths and furnaces*
- *Discussion of attendees questions.*

For additional technical information, contact Greg Strouse at (301) 975-4803 or gregory.strouse@nist.gov.

2. **NCSL, International: Two 4-hour tutorials; 1 BEFORE and 1 AFTER the NCSLI Workshop & Symposium.** Training will be conducted by Hart Scientific staff. Registration will open at early in 2004: <http://www.ncsli.org>
3. **Hart Scientific.** Regular classes are scheduled by Hart and you can see the course schedules, descriptions, fees, and local information for Salt Lake City at: www.hartscientific.com
See especially: July 7 – 9, 2004 BEFORE the NCSLI Workshop & Symposium being held in Salt Lake City, UT.